

From: "Coffey, Scott" <CoffeySE@cdmsmith.com>
To: "Zhen, Davis" <Zhen.Davis@epa.gov>
CC: younghs@cdmsmith.com
"Sheldrake, Sean" <sheldrake.sean@epa.gov>
"John Kern" (b) (6)
"Blischke, Eric" <blischkee@cdmsmith.com>
"Grandinetti, Cami" <Grandinetti.Cami@epa.gov>
Date: 4/20/2018 8:37:49 AM
Subject: FW: Hard sediment refusal noted during oversight and best approach options to deal with this - Deliberative3

Davis,
Here is a notification and request email for your use in notifying the PreRD Group of the need to collect and retain the thinner sample at the primary location for analysis and collect a second 3-point composite duplicate sample at contingency/alternate location for analysis. I note that this change will avoid shutdown at this time and until a full analysis of sampling information yet to be provided by the Pre-RD group is assessed and resolved.

Ken,
Based on our observations during the surface sediment sampling, many of the initial sample grab locations are not penetrating the minimum 20 cm acceptance depth due to dense sand or hard sediment. Due to penetration issues, multiple additional grabs are being conducted following the FSP contingency protocol. EPA has concern that frequently moving to contingency grab locations may be introducing equipment related bias into the sample locations by searching for soft sediment locations and retaining those in the composite. As a result, EPA directs the Pre-RD Group to retain and archive for future analysis the initial harder sediment sample grab samples within the primary location despite their lack of penetration to the 20 cm and **in addition**, collect the contingency, or if necessary, alternative composite "thicker" samples as a duplicate. **EPA recognizes this change from FSP procedures, but it is an alternative to shut down of the surface sampling to allow review of the sampling information collected to-date and determine if some locations have been compromised due to insufficient recovery and if an alternative sampling tool is needed.**

As mentioned in emails prior to and at the meeting on 4/17/2018 EPA has requested information from the PreRD Group on sample locations, penetration depths, and moves to contingency locations and have not yet received it. Please provide this information immediately (even if stamped preliminary draft) so that EPA can assess the information and determine if options on alternative sampling equipment, or resampling is necessary for some locations.

Thank you,
Davis

From: Sheldrake, Sean <sheldrake.sean@epa.gov>
Sent: Friday, April 20, 2018 6:21 AM
To: Coffey, Scott <CoffeySE@cdmsmith.com>; John Kern (b) (6)
Cc: Zhen, Davis <Zhen.Davis@epa.gov>; Blischke, Eric <blischkee@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Trump, Julee M. <trumpjm@cdmsmith.com>
Subject: RE: Hard sediment refusal noted during oversight and best approach options to deal with this - Deliberative3

Based on the conversation I had with Cami, Chris, Sheryl, et al yesterday, the preference is a pause to get everything we need squared away now without waiting—ensuring relevant depth info is collected and any possible equipment changes (I still think a heavier instrument would be helpful) now. Chris was ok with the stop work to make sure we're getting the data we need. (fewest "thin" samples by exploring an equipment change now and relevant collection depths for everything collected to date to verify things are being done correctly)

Sean Sheldrake RPM, Unit Diver Officer
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From: Coffey, Scott [<mailto:CoffeySE@cdmsmith.com>]
Sent: Thursday, April 19, 2018 5:54 PM
To: John Kern (b) (6); Sheldrake, Sean <sheldrake.sean@epa.gov>
Cc: Zhen, Davis <Zhen.Davis@epa.gov>; Blischke, Eric <blischkee@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Trump, Julee M. <trumpjm@cdmsmith.com>
Subject: RE: Hard sediment refusal noted during oversight and best approach options to deal with this - Deliberative2

Thanks John!

We will digest all of your good information tonight and then I'll reach out to Sean and Davis for direction tomorrow.

We do know they are collecting the relevant information you note as important in your email. Based on that, I think we might be in a good place to let them proceed with sampling (pending Sean and Davis input) as long as they continue careful note taking and provide EPA this relevant information in a timely manner (**like soon**) as opposed to waiting to give it to us at the end of their sampling effort. They certainly can put preliminary working draft on the information/maps.

Scott

From: John Kern (b) (6)
Sent: Thursday, April 19, 2018 5:27 PM
To: Sheldrake, Sean <sheldrake.sean@epa.gov>
Cc: Coffey, Scott <CoffeySE@cdmsmith.com>; Zhen, Davis <Zhen.Davis@epa.gov>; Blischke, Eric <blischkee@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Trump, Julee M. <trumpjm@cdmsmith.com>
Subject: Re: Hard sediment refusal noted during oversight and best approach options to deal with this - Deliberative2

We can work with any percentage as long as they keep track of locations where they recovered sediment at the primary location and where they tried alternate locations. To the best option would be for them to collect and analyze "thin" samples from the primary location and also keep and analyze the "thicker" sample from locations where they found an acceptable alternate location. With careful book keeping we can generate unbiased estimates of the recoverable surface sediments. That said, recoverable is a function of device, so if we want to represent top 20 cm then we need a different device.

In a sane world we would analyze the results to see if concentration is sensitive to recovered interval. If so we would reoccupy low recovery locations with be different device. Core, Russian peat borer etc.

On Apr 19, 2018 7:26 PM, "Sheldrake, Sean" <sheldrake.sean@epa.gov> wrote:

Hi Scott, I'm still thinking #3, and definitely not accepting the 10cm grabs/reducing the acceptable depth.

Thank you.

S

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<https://www.facebook.com/EPADivers>
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From: Coffey, Scott [mailto:CoffeySE@cdmsmith.com]

Sent: Thursday, April 19, 2018 3:38 PM

To: Sheldrake, Sean <sheldrake.sean@epa.gov>; Zhen, Davis <Zhen.Davis@epa.gov>; John Kern (b) (6)

Cc: Blischke, Eric <blischkee@cdmsmith.com>; Young, Howard S. <younghs@cdmsmith.com>; Trump, Julee M. <trumpjm@cdmsmith.com>

Subject: Hard sediment refusal noted during oversight and best approach options to deal with this - Deliberative
Importance: High

Davis, Sean and John:

Providing you an update to this.

Based on a review of our oversight field notes, the refusals of power grabs in harder sediment locations is **1 out of 6 sample locations (17%)**. Less than we thought as some of the refusals were noted as debris obstruction, not hard sediment. Keep in mind that we are only performing oversight 2 to 3 days out of 6 days per week in order to remain with our current scope/budget. The additional information from the Pre-RD Group, which we've asked for and should be coming soon will help (we hope) to determine what the true percentage of hard sediment refusal has been over the past 3 weeks.

John Kern: Asking you to help us define what percentage threshold (17, 20, 40, 60%.....) would prompt a change in getting a heavier/different sampling tool, or allowing the Pre-RD a reduced penetration depth. These options and a couple more are listed out as follows:

Currently, we see the following options for continuing the PH baseline random stratified sediment sampling.

1. Continue sampling as normal implementing the contingency moves from 25 to 50 feet after 3 failed unacceptable grabs in hard sediment and then moving to the Alternative 1 location after 3 failed grab attempts in the 50 foot radius and Alternative 2 location if needed. **We call this option (which is currently being implemented) Continue the hunt for softer material in the Primary Location and if not found, go to Alternative 2 location.**
2. Minimize the number of unacceptable grab samples and moves by reducing the minimum acceptance penetration depth from 20 cm to something less (e.g. 10 cm).
3. Switch to a different sampling device on all of the sampling vessels.
4. Implement sediment coring at locations that have one unacceptable grab due to dense sand.

If we are going to choose option 2, 3, 4 then we should proceed asap to minimize issues with equipment related biasing to the sample locations.

Scott Coffey, L.Hg.
Hydrogeologist

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